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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,453	04/12/2001	Evelyn Jennifer Lin Paulsen	174PUS06106	3297

23543 7590 09/09/2003

AIR PRODUCTS AND CHEMICALS, INC.
PATENT DEPARTMENT
7201 HAMILTON BOULEVARD
ALLENTOWN, PA 181951501

EXAMINER

YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/833,453

Applicant(s)

PAULSEN ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art (APA) in view of Krebs et al (US 5,880,167).

With respect to claims 1-4, the APA (see the preamble of a Jepson type claim) differs from the recited claims in that, the APA does not teach using a polyurethane prepolymer reaction product consisting essentially of at least 80 wt% perfect prepolymers and less than 2 wt% free polyisocyanate monomer. However, it would have been obvious in the art to use a polyurethane prepolymer reaction product consisting essentially of at least 90 wt% perfect prepolymers and less than 0.1 wt% free polyisocyanate monomer, because: a) it is a common practice in the art to drastically reduce a content of monomeric diisocyanate during a production of polyurethane products such as an adhesive, since isocyanate vapors are known to be highly toxic (col. 2 lines 17-40), and it is also a common knowledge in the art that various polyurethane products (i.e. hot-melt adhesive, lamination adhesive, adhesive/sealing compound, reactive primer, foam plastics) can effectively be manufactured from polyurethane prepolymer compositions as exemplified in the teachings of Krebs et al (col. 1 lines 7-12; col.

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5 line 47 to col. 6 line 45; col. 7 lines 35-65; see examples 1-3, 5-9; 15-17); and, b) polyurethane prepolymer compositions containing extremely small amount of free polyisocyanate monomers which is about "*<0.1 wt% residual monomeric isocyanate*" are commercially available (i.e. marketed by Air Products and Chemicals, Inc.), these "*prepolymer compositions [are] based on TDI and IPDI*" and "*contain > 90 wt% perfect 2:1 prepolymer*" as disclosed by the APA (specification; page 7 lines 3-6).

With respect 5-6, the recited poylol in these claims are notoriously well known in the polyurethane adhesive art.

With respect to claims 7-12, the recited method steps in these claims are conventional in the art.

Response to Arguments

3. Applicant's arguments with respect to claim 1 has been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
09-06-03